SONY

User Guide

Personal Computer
VGC-JS Series

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Before Use

Congratulations on your purchase of this Sony VAIO® computer, and welcome to the on-screen User Guide. Sony has combined leading-edge technology in audio, video, computing, and communications to provide a state-of-the-art personal computing experience.

! External views illustrated in this manual may look slightly different from those of your computer.

How to find specifications

Some features, options, and supplied items may not be available on your computer.

To find out about the configuration of your computer, visit the Sony online support web site at the following URLs:

- For customers in USA
  http://esupport.sony.com/EN/VAIO/
- For customers in Canada
  http://sony.ca/support/
- For customers in Spanish-speaking Latin American countries or areas
  http://esupport.sony.com/ES/VAIO/LA
- For customers in Brazil
  http://esupport.sony.com/BR/

Finding More about Your VAIO Computer

This section provides support information about your VAIO computer.

1. Printed Documentation

- **Quick Start Guide** — An overview of components connection, set-up information, etc.
- **Safety Information** — Safety guidelines and owner information.

2. On-screen Documentation

- **Help and Support** — General information and technical assistance for your VAIO computer.

  To access **Help and Support**:

  1 Click **Start** and **Help and Support**.

  2 Choose from the following categories to find the answers you need.

Get started with my VAIO	Get help with Internet and wireless setup, security setup, personalizing your VAIO computer, and creating recovery discs and more.
Use my VAIO	Access interactive help in the form of VAIO tutorials, how-to articles, the VAIO technology page, specifications, and system and software information. You can find useful documentation such as below: - **VAIO User Guide** (This manual) - **VAIO Recovery Center User Guide** - Information about restoring individual software programs, hardware drivers, and drive partition(s) or your entire built-in storage device to the original factory settings - **Software Information**
Troubleshoot my VAIO	Maintain and troubleshoot your VAIO computer with VAIO Care, system restore, backup and recovery, and contact Sony support.

- **Program help files** — May be included with the preinstalled software programs on your computer. You may be able to access the help files from the help menu on a specific program.
- **SmartWi™ Connection Utility Help** — Information about setting up Bluetooth®, wireless LAN, GPS, and wireless WAN functions.

  Features and options may not be available on your computer.
  See the specifications to find out about configuration of your computer.

  To access this on-screen guide:

  1 Click **Start**, **All Programs**, and **SmartWi Connection Utility**.
  2 Click **SmartWi Connection Utility Help**.

3. Support Web Sites

- **Sony online support web site**

  The Sony online support web site provides instant access to information on commonly encountered problems. Type a description of the problem and the Knowledge Database searches for the corresponding solutions online.

  - For customers in USA
    http://esupport.sony.com/EN/VAIO/
  - For customers in Canada
    http://sony.ca/support/
  - For customers in Spanish-speaking Latin American countries or areas
    http://esupport.sony.com/ES/VAIO/LA
  - For customers in Brazil
    http://esupport.sony.com/BR/

- **Operating system online support web site**

  Your computer comes preinstalled with a Microsoft Windows operating system. For operating system support, you can visit Microsoft customer support at http://support.microsoft.com/directory/.

4. Customer Information Center

If you do not find the information you are looking for at our site, you may call Sony directly. You can find the contact numbers on the Sony online support web site. In order to receive the fastest and most efficient services, have the following information readily available:

1. Your VAIO computer model

   You can find it at the lower right corner of the display on the computer.

2. Your computer's serial number

   You can find it on the bottom, the back panel, or inside the battery compartment of your Sony VAIO computer. The serial number is the last 7 digits of the number below the barcode.

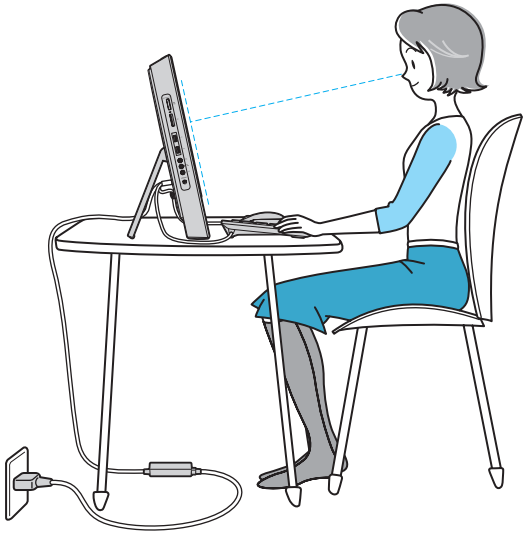
3. The operating system on your computer
4. The hardware component or the software program that is causing the problem
5. A brief description of the problem

5. In Store Service & Support (available in USA only)

Make an appointment with a Sony certified technician at a U.S. Sony Style store and get personalized service and support for your VAIO PC. Sony Style Backstage Technicians can assist with the setup of your new VAIO PC, system optimization, data rescue, and any repair service you might need.
Visit the web site at www.sonystyle.com/backstage to find the nearest location.

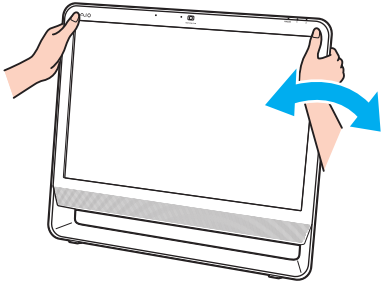
Ergonomic Considerations

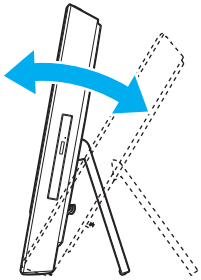
Whenever possible, you should attempt to take account of the following ergonomic considerations:



- **Position of your computer** – Place the display directly in front of you. Keep your forearms horizontal, with your wrists in a neutral, comfortable position while using the keyboard or the pointing device. Let your upper arms hang naturally at your sides. Take frequent breaks while using your computer. Excessive use of the computer may strain eyes, muscles, or tendons.
- **Furniture and posture** – Sit in a chair with good back support. Adjust the level of the chair so your feet are flat on the floor. A footrest may make you more comfortable. Sit in a relaxed, upright posture and avoid slouching forward or leaning far backwards.

- **Viewing angle of the display** – Use the display's tilting feature to find the best position. You can reduce eye strain and muscle fatigue by adjusting the tilt of the display to the proper position. Adjust the brightness level of the display as well.





! While adjusting the viewing angle, do not exert excessive pressure on your computer to eliminate a risk of mechanical damage.

- **Lighting** – Choose a location where windows and lights do not cause glare and reflection on the display. Use indirect lighting to avoid bright spots on the display. Proper lighting adds to your comfort and work efficiency.
- **Ventilation** – Make sure you leave at least 4 inches (10 cm) of space behind and at least 8 inches (20 cm) of space on each side of the main unit.

Getting Started

This section describes how to get started using your VAIO computer.

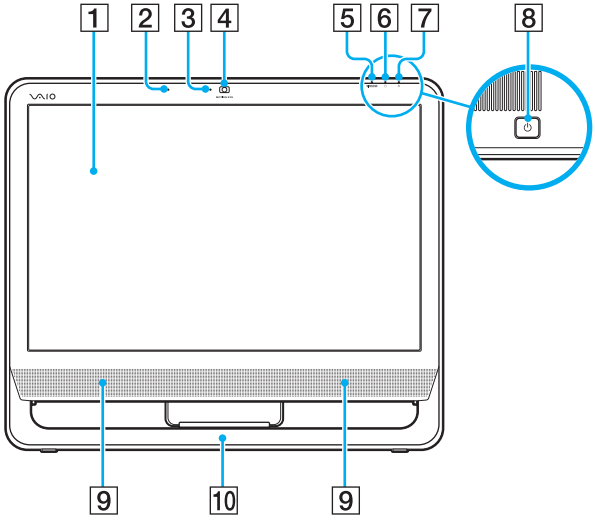
! Before starting your computer for the first time, do not connect any other hardware that did not originally come with your computer. Upon completion, connect one device (for example, a printer, an external hard disk drive, a scanner, and so on) at a time, following the manufacturer's instructions.

- **Locating Controls and Ports** (page 12)
- **About the Indicator Lights** (page 16)
- **Setting Up Your Computer** (page 17)
- **Shutting Down Your Computer Safely** (page 20)
- **Using the Power Saving Mode** (page 21)
- **Updating Your Computer** (page 23)

Locating Controls and Ports

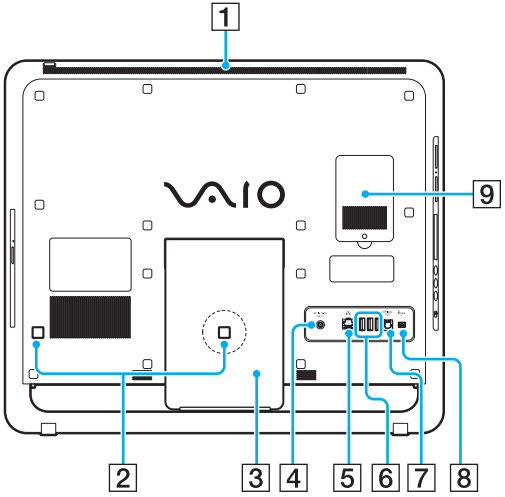
Take a moment to identify the controls and ports shown on the following pages.

Front



1 LCD screen (page 80)
2 Built-in microphone (monaural)
3 Built-in **MOTION EYE** camera indicator (page 16)
4 Built-in **MOTION EYE** camera (page 27)
5 **WIRELESS** indicator (page 16)
6 Disc drive indicator (page 16)
7 Power indicator (page 16)
8 Power button
9 Built-in speakers (stereo)
10 Bottom chassis frame (page 76)

Back

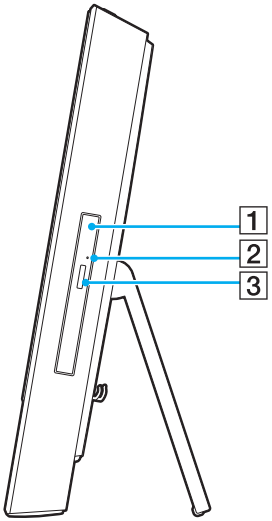


!
The area around the air vent (1) becomes hot while your computer is on. Be sure to wait until the computer cools down before you touch it.

1 Air vent
2 Cable clamps (page 17), (page 18)
3 Prop-up stand (page 76)
4 **DC IN** port (page 18)
5 Network (LAN) port (page 46)
6 Hi-Speed USB (USB 2.0) ports* (page 57)
7 **OPTICAL OUT** port (page 56)
(Output Sampling Rate: 44.1 KHz/48.0 KHz/96.0 KHz)
8 i.LINK 4-pin (S400) port (page 59)
9 Memory module compartment cover (page 69)

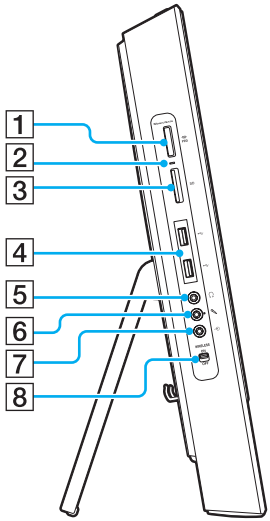
* Support high-/full-/low- speeds.

Right



1 Optical disc drive (page 28)
2 Manual eject hole (page 102)
3 Drive eject button (page 28)

Left



1 "Memory Stick" slot*1 (page 35)

2 Media Access indicator (page 16)

3 **SD** memory card slot (page 41)

4 Hi-Speed USB (USB 2.0) ports*2 (page 57)

5 Headphones jack (page 56)

6 Microphone jack
Connect an external microphone.

7 Line In jack
Connect an external audio device to receive audio signals.

8 **WIRELESS** switch (page 47), (page 50)

*1 Your computer supports both standard-size "Memory Stick" and Duo-size "Memory Stick".

*2 Support high-/full-/low- speeds.

About the Indicator Lights

Your computer is equipped with the following indicator lights:

Indicator	Functions
Power ⏻	Illuminates in green while the computer is on, illuminates in orange while the computer is in Sleep mode, and goes out when the computer is turned off.
Built-in **MOTION EYE** camera	Illuminates while the built-in camera is in use.
Media Access	Illuminates while data access to a memory card, such as "Memory Stick" and an SD memory card, is in progress. (Do not place the computer into Sleep mode or turn it off while this indicator light is lit.) When the indicator light is unlit, the memory card is not in use.
Disc drive	Illuminates while data access to the built-in storage device or the optical disc drive is in progress. Do not place the computer into Sleep mode or turn it off while this indicator light is lit.
WIRELESS	Illuminates while one or more wireless options are enabled.

Setting Up Your Computer

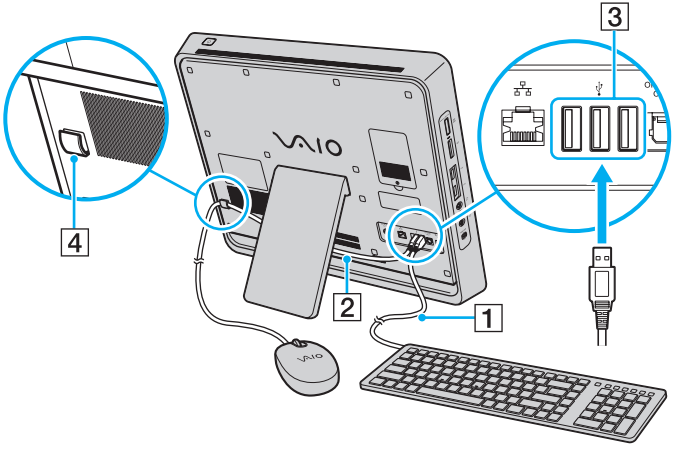
Connecting the Keyboard and the Mouse

A USB keyboard and a USB mouse are supplied with your computer.

To connect the keyboard and the mouse

1 Plug the keyboard cable (1) and the mouse cable (2) to your desired USB ports (3) on the back of the computer.

2 Route the mouse cable (2) through the cable clamp (4) on the back of your computer.



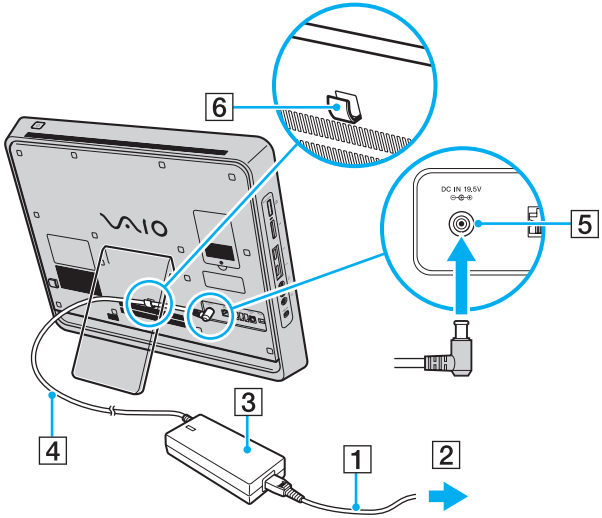
Connecting a Power Source

You need an AC adapter to connect your computer to an AC power source.

✍ Use only the supplied AC adapter for your computer.

To connect the AC adapter

1. Plug one end of the power cord (1) into the AC adapter (3).
2. Plug the other end of the power cord into an AC outlet (2).
3. Plug the AC adapter cable (4) into the **DC IN** port (5).
4. Route the AC adapter cable through the cable clamp (6).



!
The shape of the DC In plug varies depending on the AC adapter.

To disconnect your computer completely from AC power, turn off the computer and unplug the AC adapter.

Make sure that the AC outlets are easily accessible.

!
If you unplug the AC adapter from your computer while the computer is on or in Sleep mode, you may lose all unsaved data.

Shutting Down Your Computer Safely

To avoid losing unsaved data, be sure to shut down your computer properly, as described below.

To shut down your computer

1. Turn off any peripherals connected to the computer.
2. Click **Start** and the **Shut down** button.
3. Respond to any prompts warning you to save documents or to consider other users and wait for the computer to turn off automatically.
   The power indicator light turns off.

Using the Power Saving Mode

In addition to the normal operating mode, your computer has a distinct power saving mode called Sleep mode.

! Turn off your computer if you do not intend to use it for a long period of time.

Mode	Description
Normal mode	This is the normal state of your computer while it is in use. The green power indicator light is lit while the computer is in this mode.
Sleep mode	Sleep mode turns off the LCD screen and places the built-in storage device(s) and the CPU into a low power consumption mode. The orange power indicator light illuminates while your computer is in this mode.

Using Sleep Mode

To activate Sleep mode

Click **Start**, the arrow next to the **Shut down** button, and **Sleep**.

✍ Alternatively, you can press the sleep button on the keyboard to place your computer into Sleep mode.

To return to Normal mode

- ❑ Press any key on the keyboard.
- ❑ Press the power button on your computer.

! If you press and hold the power button for more than four seconds, your computer will turn off automatically. You will lose all unsaved data.

If the computer is not used for a certain period of time, it will enter Sleep mode. To modify this, you can change the Sleep mode settings.

To change the Sleep mode settings

1. Click **Start**, **Control Panel**, **Hardware and Sound**, and **Power Options**.
2. Click **Change plan settings** under the current power plan.
3. Change the time to place the computer into Sleep mode and click **Save Changes**.

Updating Your Computer

Be sure to install the latest updates on your computer with the following software applications so that the computer can run more efficiently.

- **Windows Update**
  Click **Start**, **All Programs**, and **Windows Update** and then follow the on-screen instructions.
- **VAIO Update 4**
  Click **Start**, **All Programs**, **VAIO Update 4**, and **Go to VAIO Web Support** and then follow the on-screen instructions.

  !
  Your computer must be connected to the Internet to download the updates.

Using Your VAIO Computer

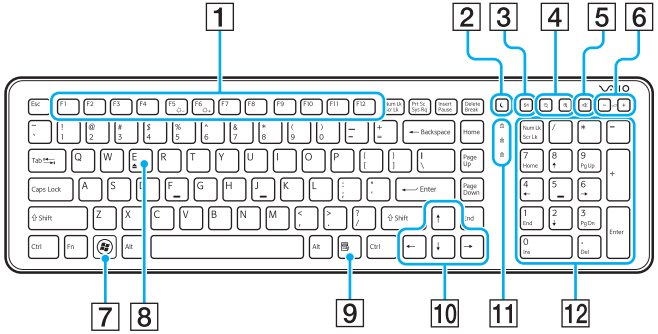
This section describes how to get the most out of using your VAIO computer.

❑ **Using the Keyboard** (page 25)
❑ **Using the Built-in Camera** (page 27)
❑ **Using the Optical Disc Drive** (page 28)
❑ **Using "Memory Stick"** (page 35)
❑ **Using Other Modules / Memory Cards** (page 41)
❑ **Using the Internet** (page 45)
❑ **Using the Network (LAN)** (page 46)
❑ **Using the Wireless LAN** (page 47)
❑ **Using the Bluetooth Function** (page 50)

Using the Keyboard

A USB keyboard is supplied with your computer.

The keyboard uses a standard key arrangement with additional keys that perform specific functions.



Illustrated above is the English keyboard as an example.

1 Function keys
Perform certain tasks. The task associated with each function key varies among software applications except the following combinations with the **Fn** key.
Fn+**F5**: Decreases lighting intensity of the LCD screen.
Fn+**F6**: Increases lighting intensity of the LCD screen.

2 Sleep button
Provides for the lower level of power consumption.
For details on power management, see **Using the Power Saving Mode** **(page 21)**.

3 **S1** button
Executes the task that is assigned to the button by default. You can change the default assignment with the **VAIO Control Center**.

4 Zoom buttons
Changes the size of an image or a document displayed on some software.

Press to make the view look smaller and further away (zoom out).

Press to make the view look bigger and closer (zoom in).
See the help file included with the **VAIO Control Center** for more information.

5 Muting button
Turns the volume on and off.

6 Volume control buttons
Increase (+) or decrease (-) the volume.

7 Windows key
Displays the **Start** menu.

8 **E** key
Ejects the optical disc drive tray when used in conjunction with the **Fn** key.

9 Applications key
Displays a shortcut menu in certain software applications.

10 Directional arrow keys
Move the pointer on the computer screen.

11 Indicator lights

(Num Lk): Turns on while in the Num Lock state.

(Caps Lock): Turns on while in the Caps Lock state.

(Scr Lk): Turns on while in the Scroll Lock state.

12 Numeric keypad
Use the numeric keypad to type numbers or to perform basic math calculations.

Using the Built-in Camera

Your computer is equipped with a built-in **MOTION EYE** camera.

With the preinstalled image capture software, you can perform the following operations:

- Capturing still images and movies
- Sensing and capturing object movements for monitoring purposes
- Editing captured data

✍
Turning on the computer activates the built-in camera.

Video conferences are possible with the appropriate software.

!
Launching or exiting your instant messaging or video editing software does not activate or deactivate the built-in camera.

Do not place your computer into Sleep mode while you are using the built-in camera.

To use the preinstalled image capture software

1. Click **Start**, **All Programs**, **ArcSoft WebCam Companion 3**, and **WebCam Companion 3**.
2. Click your desired icon in the main window.
   For detailed information on how to use the software, see the help file included with the software.

✍
When capturing an image or a movie in a dark place, click the **Capture** icon in the main window, and then click the **WebCam Settings** icon and select the low light or low light compensation option in the properties window.

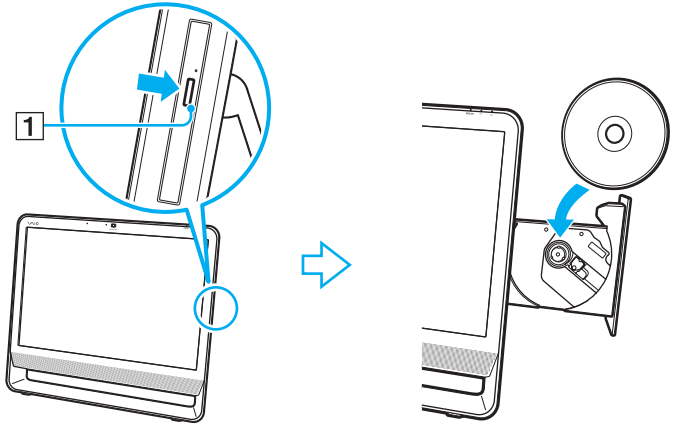
Using the Optical Disc Drive

Your computer is equipped with an optical disc drive.

Features and options in this section may not be available on your computer.
See the specifications to find out about the configuration of your computer.

To insert a disc

1. Turn on the computer.
2. Press the drive eject button (1) or the **Fn+E** keys to open the drive.
   The drive tray slides out.
3. Hold the back of the drive tray with one hand, place a disc in the middle of the drive tray with the label side facing toward you, and gently push it toward the drive tray until the disc clicks into place.



!
Do not exert pressure on the drive tray. Be sure to hold the back of the drive tray when placing/removing a disc onto/from the drive tray.

4 Close the drive tray by pushing it in gently.

!
Do not remove the optical disc while your computer is in Sleep mode. Be sure to bring the computer back into Normal mode before removing the disc.

Supported Disc Media

Your computer plays and records CDs, DVDs, and Blu-ray Disc™ media, depending on the model you purchased.

See the reference chart below to find out which type of optical disc drive supports which types of media.

PR: playable and recordable
P: playable but not recordable
–: not playable or recordable

	CD-ROM	Video CD	Music CD	CD Extra	CD-R/RW	DVD-ROM	DVD-Video	DVD-R/RW	DVD+R/RW	DVD+R DL (Double Layer)	DVD-R DL (Dual Layer)	DVD-RAM*1 *2	BD-ROM	BD-R/RE*3
DVD±RW/±R DL/RAM	P	P	P	P	PR*5	P	P	PR	PR	PR	PR	PR	–	–
Blu-ray Disc	P	P	P	P	PR*5	P	P	PR	PR	PR	PR	PR	P	PR*4
Blu-ray Disc Combo	P	P	P	P	PR*5	P	P	PR	PR	PR	PR	PR	P	P

*1 The DVD±RW/RAM disc drive on your computer does not support the DVD-RAM cartridge. Use non-cartridge discs or discs with a removable cartridge.

*2 Writing data to single-sided DVD-RAM discs (2.6 GB) compliant with DVD-RAM Version 1.0 is not supported.
DVD-RAM Version 2.2/12X-SPEED DVD-RAM Revision 5.0 disc is not supported.

*3 The Blu-ray Disc drive on your computer does not support BD-RE Disc media in Version 1.0 format and Blu-ray Disc media with a cartridge.

*4 Supports writing data to BD-R Part1 Version 1.1/1.2/1.3 discs (single-layer discs with the capacity of 25 GB, dual-layer discs with the capacity of 50 GB) and BD-RE Part1 Version 2.1 discs (single-layer discs with the capacity of 25 GB, dual-layer discs with the capacity of 50 GB).

*5 Writing data to Ultra Speed CD-RW discs is not supported.

!
This unit is designed to playback discs that conform to the Compact Disc (CD) standard. DualDiscs and some music discs encoded with copyright protection technologies do not conform to the Compact Disc (CD) standard. Therefore, these discs may not be compatible with this unit.

When you buy pre-recorded or blank discs for use with your VAIO computer, be sure to read the notices on the disc package carefully to check both playback and recording compatibility with your computer's optical disc drives. Sony does NOT guarantee the compatibility of VAIO optical disc drives with discs that are not compliant with the official "CD," "DVD," or "Blu-ray Disc" standard. USING NON-COMPLIANT DISCS CAN CAUSE FATAL DAMAGE TO YOUR VAIO PC OR CREATE SOFTWARE CONFLICTS AND CAUSE SYSTEM HANGING.
For inquiries about disc formats, contact the individual publisher of the pre-recorded disc or the manufacturer of the recordable disc.

✍
8 cm disc writing is not supported.

!
To play copyright protected Blu-ray Disc media continually, update the AACS key. The AACS key update requires Internet access.

As with other optical media devices, circumstances may limit compatibility or prevent Blu-ray Disc media playback. VAIO computers may not support movie playback on packaged media recorded in AVC or VC1 formats at high bit rates.

Region settings are required for some contents on DVD and BD-ROM Disc media. If the region setting on the optical disc drive does not match the region coding on the disc, playback is not possible.

Some contents may restrict video output to standard definition or prohibit analog video output. When you output video signals through digital connections, such as an HDMI connection or a DVI connection, it is strongly recommended that a digital HDCP compliant environment be implemented for optimum compatibility and viewing quality.

Exit all memory-resident utility software before playing or writing a disc as it may cause the computer to malfunction.

Notes on Using the Optical Disc Drive

Notes on writing data to a disc

- Only use circular discs. Do not use discs in any other shape (star, heart, card, etc.), as this may damage the optical disc drive.
- Do not strike or shake your computer while the optical disc drive is writing data to a disc.
- Do not plug or unplug the power cord or the AC adapter while the optical disc drive is writing data to a disc.

Notes on playing discs

To achieve optimum performance of disc playback, you should follow these recommendations:

- Some CD players and computer optical disc drives may not be able to play audio CDs created with the CD-R or CD-RW media.
- Some DVD players and computer optical disc drives may not be able to play DVDs created with the DVD+R DL, DVD-R DL, DVD+R, DVD+RW, DVD-R, DVD-RW, or DVD-RAM media.
- You may not be able to play some of the Blu-ray Disc contents on your computer, or the computer may become unstable during Blu-ray Disc playback. To play such contents successfully, download and install the latest updates for the **WinDVD BD** using the **VAIO Update**.
  For information on how to use the **VAIO Update**, see **Updating Your Computer** **(page 23)**.
- Depending on system environment, you may find sound interruptions and/or dropped frames during AVC HD playback.
- Do not place your computer into the power saving mode while your computer is playing a disc.

Notes on region codes

Region code indicators are labeled on the discs or packages to indicate in which region and on what type of player you can play the disc. If the region code indicates "all," you can play this disc in most regions of the world. If the region code for your residence area is different from the label, you cannot play the disc on your computer.

Playing Discs

To play a disc

1 Insert a disc into the optical disc drive.

! Close all running software applications before playing a disc.

2 If nothing appears on the desktop, click **Start**, **All Programs**, and your desired software to play the disc.
For instructions on how to use the software, see the help file included with the software.

Copying Files to Discs

To copy files to a disc

1 Insert a recordable disc into the optical disc drive.

! Close all running software applications before copying files to a disc.

2 If nothing appears on the desktop, click **Start**, **All Programs**, and your desired disc burning software to copy files to the disc.
For instructions on how to use the software, see the help file included with the software.

Using "Memory Stick"

"Memory Stick" is a compact, portable, and versatile IC recording media especially designed for exchanging and sharing digital data with compatible products, such as digital cameras, mobile phones, and other devices. Because it is removable, it can be used for external data storage.

Before You Use "Memory Stick"

The "Memory Stick" slot on your computer can accommodate the following sizes and types of media:

- "Memory Stick"
- "Memory Stick Duo"
- "Memory Stick PRO"
- "Memory Stick PRO Duo"
- "Memory Stick PRO-HG Duo"

! The "Memory Stick" slot on your computer does not support 8-bit parallel data transfer (high-speed data transfer).

For the latest information about "Memory Stick", visit [memorystick.com] at http://www.memorystick.com/en/.

Inserting and Removing "Memory Stick"

To insert "Memory Stick"

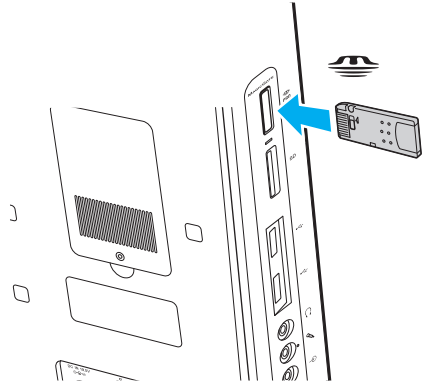
1 Locate the "Memory Stick" slot (page 15).

2 Hold "Memory Stick" with the arrow pointing toward the slot.

3 Carefully slide "Memory Stick" into the slot until it clicks into place.

"Memory Stick" is automatically detected by your system and the contents of "Memory Stick" are displayed. If nothing appears on the desktop, click **Start**, **Computer**, and double-click the "Memory Stick" icon.

The “Memory Stick” icon will appear in the **Computer** window after you insert “Memory Stick” into the slot.



You can insert Duo-size "Memory Stick" directly into the "Memory Stick" slot without using a "Memory Stick Duo" adaptor.

!
Be sure to hold "Memory Stick" with the arrow pointing in the correct direction as you insert it into the slot. To avoid damaging your computer or the media, do not force "Memory Stick" into the slot if you cannot insert it smoothly.

Before using "Memory Stick Micro" ("M2"), be sure to insert it into an "M2" Standard-size adaptor or "M2" Duo adaptor. If you insert the media directly into the "Memory Stick" slot without the adaptor, you may not be able to remove it from the slot.

"Memory Stick Micro" in an "M2" Duo adaptor may not operate properly if it is additionally inserted into a "Memory Stick Duo" adaptor.

To remove "Memory Stick"

!
Do not remove "Memory Stick" while the Media Access indicator light is lit. If you do, you may lose data. Large volumes of data may take time to load, so make sure the indicator light is unlit before removing "Memory Stick".

1 Locate the "Memory Stick" slot (page 15).

2 Check that the Media Access indicator light is unlit.

3 Push in "Memory Stick" toward the computer and release.
"Memory Stick" ejects.

4 Pull "Memory Stick" out of the slot.

!
Be sure to remove "Memory Stick" gently, or it may pop out unexpectedly.

Formatting "Memory Stick"

To format "Memory Stick"

"Memory Stick" has been formatted by default and is ready for use.

If you want to reformat the media with your computer, follow these steps.

!
Be sure to use the device that is designed to format the media and supports "Memory Stick" when formatting the media.

Formatting "Memory Stick" erases the entire data stored on the media. Before formatting the media, make sure that it does not contain your valuable data.

Do not remove "Memory Stick" from the slot while formatting. This could cause a malfunction.

1 Locate the "Memory Stick" slot (page 15).

2 Carefully slide "Memory Stick" into the slot until it clicks into place.

3 Click **Start** and **Computer** to open the **Computer** window.

4 Right-click the "Memory Stick" icon and select **Format**.

5 Click **Restore device defaults**.

!
The size of the allocation unit and file system may change.

Do not select **NTFS** from the **File system** drop-down list as it may cause a malfunction.

✍
The formatting process will be completed more quickly if you select **Quick Format** in **Format options**.

6 Click **Start**.

7 Follow the on-screen instructions.

! It may take time to format "Memory Stick" depending on the media type.

Notes on Using "Memory Stick"

- Your computer has been tested and found compatible with Sony branded "Memory Stick" with capacity of up to 16 GB that are available as of May 2009. However, not all "Memory Stick" are guaranteed of compatibility.
- Inserting "Memory Stick" with multiple conversion adaptors is not guaranteed of compatibility.
- "MagicGate" is the general name of the copyright protection technology developed by Sony. Use "Memory Stick" with the "MagicGate" logo to take advantage of this technology.
- Except for your personal use, it is against the copyright law to use any audio and/or image data you recorded without prior consent from the respective copyright holders. Accordingly, "Memory Stick" with such copyrighted data can be used only within the law.
- Do not insert more than one "Memory Stick" into the slot. Improper insertion of the media may damage both your computer and the media.

Using Other Modules / Memory Cards

Using the SD Memory Card

Your computer is equipped with an **SD** memory card slot. You can use this slot to transfer data among digital cameras, camcorders, music players, and other audio/video devices.

Before you use the SD memory card

The **SD** memory card slot on your computer supports the following memory cards:

- SD memory card
- SDHC memory card

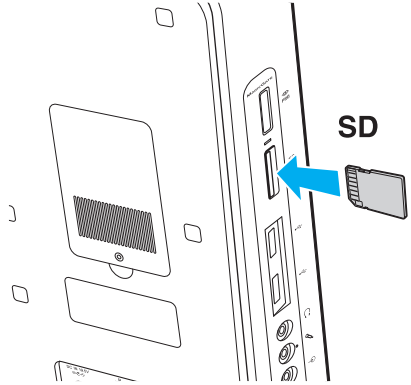
For the latest information on compatible memory cards, see **Finding More about Your VAIO Computer** **(page 5)** to visit the appropriate support web site.

To insert an SD memory card

1 Locate the **SD** memory card slot (page 15).

2 Hold the SD memory card with the arrow pointing toward the slot.

3 Carefully slide the SD memory card into the slot until it clicks into place.
Do not force the card into the slot.



If the SD memory card does not go into the slot easily, remove it gently and verify you are inserting it in the proper direction.

The SD memory card icon will appear in the **Computer** window after you insert the card into the slot.

To remove an SD memory card

1. Locate the **SD** memory card slot (page 15).
2. Check that the Media Access indicator light is unlit.
3. Push in the SD memory card toward the computer and release.
   The SD memory card ejects.
4. Pull the SD memory card out of the slot.

Notes on Using Memory Cards

General notes on using the memory card

- Be sure to use memory cards that are compliant with the standards supported by your computer.
- Be sure to hold the memory card with the arrow pointing in the correct direction as you insert it into the slot. To avoid damaging your computer or the media, do not force the memory card into the slot if you cannot insert it smoothly.
- Use care when inserting or removing the memory card from the slot. Do not force it in or out of the slot.
- Do not remove the memory card while the media access indicator light is lit. If you do, you may lose data.
- Do not attempt to insert a memory card or memory card adaptor of a different type into the memory card slot. An incompatible memory card or memory card adaptor may cause difficulty in removing from the slot and can cause damage to your computer.

Notes on using the SD memory card

- Your computer has been tested and found compatible only with major memory cards available as of May 2009. However, not all memory cards that meet the same specifications as the compatible media are guaranteed of compatibility.
- SD memory cards with capacity of up to 2 GB and SDHC memory cards with capacity of up to 32 GB have been tested and found compatible with your computer.
- The SD memory card slot on your computer does not support the high-speed data transfer feature of the SD memory card and the SDHC memory card.

Using the Internet

Before using the Internet, you need to sign up with an Internet Service Provider (ISP) and set up devices required for connecting your computer to the Internet.

The following types of Internet connection services may be available from your ISP:

- Fiber to the Home (FTTH)
- Digital Subscriber Line (DSL)
- Cable modem
- Satellite
- Dial-up

For detailed information on devices required for Internet access and how to connect your computer to the Internet, ask your ISP.

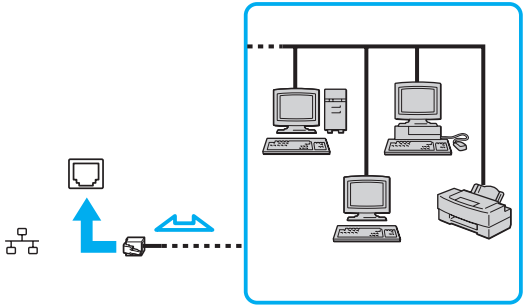
✍
To connect your computer to the Internet using the wireless LAN function, you need to set up the wireless LAN network. See **Using the Wireless LAN (page 47)** for more information.

!
When you connect your computer to the Internet, be sure to take appropriate security measures to protect the computer against online threats.

Depending on the service contract with your ISP, you may need to connect an external modem device, for example a USB telephone modem, a DSL modem, or a cable modem, to your computer to connect to the Internet. For the detailed instructions on connection setups and modem configuration, see the manual that came with your modem.

Using the Network (LAN)

You can connect your computer to 1000BASE-T/100BASE-TX/10BASE-T type networks with a LAN cable. Connect one end of a LAN cable (not supplied) to the network (LAN) port on the back of the computer and the other end to your network. For detailed settings and devices required for LAN access, ask your network administrator.



✍
You can connect your computer to any network without changing the default settings.

!
Do not plug a telephone cable into the network (LAN) port on your computer.
If the network (LAN) port is connected to one of the telephone lines mentioned below, high electric current to the port may cause damage, overheating, or fire.

- Home (intercom speakerphone) or business-use telephone lines (multi-line business telephone)
- Public telephone subscriber line
- Private branch exchange (PBX)

Using the Wireless LAN

Using the Wireless LAN (WLAN), all your digital devices with the built-in WLAN function communicate freely with each other through a network. A WLAN is a network in which a user can connect to a Local Area Network (LAN) through a wireless (radio) connection.

You can communicate without an access point, which means that you can communicate with a limited number of computers (ad-hoc). Or you can communicate through an access point, which allows you to create a full infrastructure network.

To use the wireless LAN function

! Be sure to turn on the **WIRELESS** switch before starting the wireless LAN function.

The IEEE 802.11a standard, using the 5 GHz band, and the IEEE 802.11n draft standard, using the 2.4 GHz or 5 GHz band, are not available on ad-hoc networks.

To use the wireless LAN function, you first need to set up the wireless LAN function.

Use the **SmartWi Connection Utility** to set up the wireless LAN function. See the **SmartWi Connection Utility Help** for more information.

To access this on-screen guide:

1 Click **Start**, **All Programs**, and **SmartWi Connection Utility**.

2 Click **SmartWi Connection Utility Help**.

In some countries, using WLAN products may be restricted by the local regulations (e.g. limited number of channels). Therefore, before activating the WLAN function, read the **Safety Information** carefully.

WLAN uses the IEEE 802.11a*/b/g standard or the IEEE 802.11n* draft standard, which specifies the type of technology used. The standard includes the encryption methods: Wired Equivalent Privacy (WEP), which is a security protocol, Wi-Fi Protected Access 2 (WPA2), and Wi-Fi Protected Access (WPA). Proposed jointly by the IEEE and Wi-Fi Alliance, both WPA2 and WPA are specifications of standards based on interoperable security enhancements that increase the level of data protection and access control for existing Wi-Fi networks. WPA is designed to be forward compatible with the IEEE 802.11i specification. It utilizes the enhanced data encryption Temporal Key Integrity Protocol (TKIP) in addition to user authentication using 802.1X and Extensible Authentication Protocol (EAP). Data encryption protects the vulnerable wireless link between clients and access points. Besides that, there are other typical LAN security mechanisms to ensure privacy, such as: password protection, end-to-end encryption, virtual private networks, and authentication. WPA2, the second generation of WPA, provides stronger data protection and network access control and is also designed to secure all versions of 802.11 devices, including 802.11b, 802.11a, 802.11g, and 802.11n draft standard, multi-band and multi-mode. In addition, based on the ratified IEEE 802.11i standard, WPA2 provides government grade security by implementing the National Institute of Standards and Technology (NIST) FIPS 140-2 compliant AES encryption algorithm and 802.1X-based authentication. WPA2 is backward compatible with WPA.

* See the specifications to find out about the configuration of your computer.

The IEEE 802.11b/g standard is a wireless LAN standard, using the 2.4 GHz band. The IEEE 802.11g standard provides higher-speed communications than the IEEE 802.11b standard.

The IEEE 802.11a standard is a wireless LAN standard, using the 5 GHz band.

The IEEE 802.11n draft standard is a wireless LAN standard, using the 2.4 GHz or 5 GHz band.

Wireless LAN devices using the 2.4 GHz band cannot communicate with devices using the 5 GHz band because the frequencies are different.

The 2.4 GHz band used by wireless LAN compatible devices is also used by other various devices. Although technologies to minimize interference from other devices that use the same band are employed on wireless LAN compatible devices, such interference may cause lower communication speed, narrower communication range, or broken wireless connections.

The communication speed varies depending on the distance between communication devices, existence of obstacles between such devices, the device configuration, the radio conditions, and the software in use. In addition, communications may be cut off depending on the radio conditions.

The communication range varies depending on the actual distance between communication devices, existence of obstacles between such devices, the radio conditions, the ambient environment that includes existence of walls and materials of such walls, and the software in use.

Actual communication speed may not be as fast as the one displayed on your computer.

Deploying IEEE 802.11b and IEEE 802.11g products on the same wireless network may reduce the communication speed due to radio interference. Taking this into consideration, the IEEE 802.11g products are designed to reduce the communication speed to ensure communications with IEEE 802.11b products. When the communication speed is not as fast as expected, changing the wireless channel on the access point may increase the communication speed.

Using the Bluetooth Function

The Bluetooth function may be available on your computer.

Features and options in this section may not be available on your computer.
See the specifications to find out about the configuration of your computer.

You can establish wireless communications between your computer and other Bluetooth devices such as another computer or a mobile phone. You can transfer data between these devices without cables at a range of up to 33 feet (10 meters) in an open area.

To use the Bluetooth function

! Be sure to turn on the **WIRELESS** switch before starting the Bluetooth function.

To use the Bluetooth function, you first need to set up the Bluetooth function.

Use the **SmartWi Connection Utility** to set up the Bluetooth function. See the **SmartWi Connection Utility Help** for more information.

To access this on-screen guide:

1. Click **Start**, **All Programs**, and **SmartWi Connection Utility**.
2. Click **SmartWi Connection Utility Help**.

Bluetooth Security

The Bluetooth wireless technology has an authentication function, which allows you to determine with whom you choose to communicate. With the authentication function, you can prevent any anonymous Bluetooth devices from accessing your computer.

The first time two Bluetooth devices communicate, a common passkey (a password required for authentication) should be determined for both devices to be registered. Once a device is registered, there is no need to re-enter the passkey.

✍
The passkey can be different each time, but must be the same at both ends.

For certain devices, such as a mouse, no passkey can be entered.

Communicating with Another Bluetooth Device

You can connect your computer to a Bluetooth device such as another computer, a mobile phone, a PDA, a headset, a mouse, or a digital camera without the use of any cables.

To communicate with another Bluetooth device

To communicate with another Bluetooth device, you first need to set up the Bluetooth function. For setting up and using the Bluetooth function, search **Windows Help and Support** for Bluetooth information.

! Be sure to turn on the **WIRELESS** switch before starting the Bluetooth function.

Notes on Using the Bluetooth Function

- The data transfer rate varies, depending on the following conditions:
  - Obstacles, such as walls, located between devices
  - Distance between devices
  - Material used in walls
  - Proximity to microwaves and cordless telephones
  - Radio frequency interference and other environmental conditions
  - Device configuration
  - Type of software application
  - Type of operating system
  - Use of both wireless LAN and Bluetooth functions at the same time on your computer
  - Size of file being exchanged
- Large files may occasionally be corrupted during continuous transfer due to limitations of the Bluetooth standard and electromagnetic interference in the environment.
- All Bluetooth devices must be certified to make sure that the applicable standard requirements are maintained. Even if standards are met, individual device performance, specifications, and operation procedures can vary. Data exchange may not be possible in all situations.
- Video and audio may not be synchronized if you play videos on your computer with audio output from a connected Bluetooth device. This is a frequent occurrence with Bluetooth technology and is not a malfunction.
- The 2.4 GHz band, with which Bluetooth devices or wireless LAN devices work, is used by various devices. Bluetooth devices use the technology to minimize the interference from other devices that use the same wave length. Simultaneous use of the Bluetooth function and wireless communication devices, however, may cause radio interference and result in reduced communication speeds and distances than the standard values.

- The Bluetooth function may not work with other devices, depending on the manufacturer or the software version employed by the manufacturer.
- Connecting multiple Bluetooth devices to your computer may cause channel congestion, resulting in poor performance of the devices. This is normal with Bluetooth technology and is not a malfunction.

Using Peripheral Devices

You can add functionality to your VAIO computer by using the various ports on the computer.

❑ **Connecting External Speakers or Headphones (page 56)**
❑ **Connecting a USB Device (page 57)**
❑ **Connecting an i.LINK Device (page 59)**

Connecting External Speakers or Headphones

You can connect external sound output devices (not supplied), such as speakers or headphones, to your computer.

Since your computer is capable of outputting digital signals through the **OPTICAL OUT** port, you can connect an S/PDIF device such as digital headphones or an audio/video amplifier to the port and enhance the sound quality of your computer. For more information, see the manual that came with your S/PDIF device.

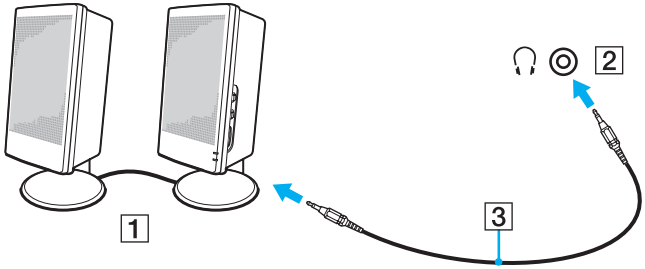
!
To hear sound from the S/PDIF device connected to the **OPTICAL OUT** port, you need to change the sound output device. For the detailed instructions, see **How do I change the sound output device?** **(page 114)**.

To connect external speakers

✍
Make sure your speakers are designed for computer use.

!
Turn down the volume of the speakers before you turn them on.

Connect external speakers (1) to the headphones jack (2) ∩ with a speaker cable (3) (not supplied).



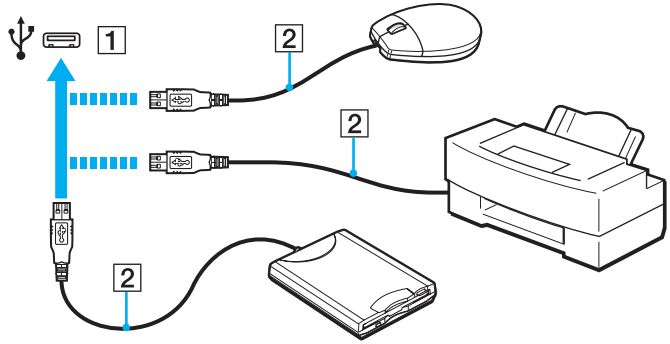
Connecting a USB Device

You can connect a Universal Serial Bus (USB) device to your computer, such as a mouse, floppy disk drive, speaker, and printer.

To connect a USB device

1 Choose the USB port (1) you prefer to use.

2 Plug the USB device cable (2) into the USB port.



Notes on connecting a USB device

- You may need to install the driver software supplied with your USB device before use. See the manual that came with the USB device for more information.
- Be sure to use a USB printer compatible with your version of Windows to print documents.
- For information on how to remove a USB device, see the manual that came with the device.
- To protect your computer and/or USB devices from damage, observe the following:
  - When moving the computer with USB devices connected, avoid exposing the USB ports to shock or impact.
  - Do not put the computer into a bag or carrying case when it has USB devices connected.

Connecting an i.LINK Device

Your computer is equipped with an i.LINK port which you can use to connect an i.LINK device, such as a digital video camcorder.

✍ i.LINK is a trademark of Sony Corporation used only to designate that a product contains an IEEE 1394 connection. The procedure to establish an i.LINK connection may vary, depending on a software application, an operating system, and a compatible i.LINK device. Not all products with an i.LINK connection can communicate with each other. See the manual that came with your compatible i.LINK device for more information on operating conditions and proper connection. Before connecting compatible i.LINK PC peripherals to your system, such as a CD-RW or hard disk drive, confirm their operating system compatibility and required operating conditions.

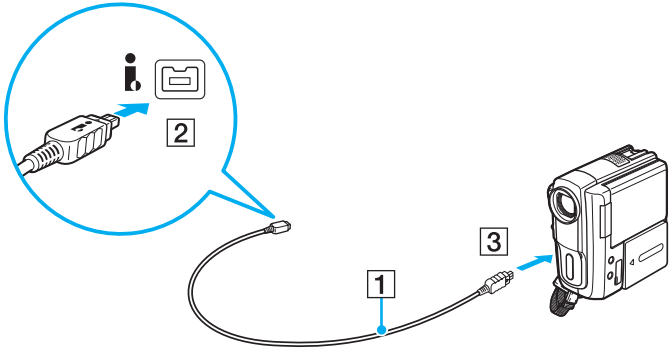
Notes on connecting i.LINK devices

- The i.LINK port on your computer does not supply power to an external device. If the external device requires external power, be sure to connect it to a power source.
- The i.LINK port supports transfer rates up to 400 Mbps. However, the actual transfer rate depends on the transfer rate of the external device.
- The optional i.LINK cables may not be available in some countries or areas.
- An i.LINK connection with other compatible devices is not fully guaranteed.
- The i.LINK connection may not be available depending on the software applications, operating system, and i.LINK-compatible devices you use. See the manual that came with your software for more information.
- Check the working conditions and operating system compatibility of i.LINK-compatible PC peripherals (for example, an HDD or a CD-RW drive) before you connect them to your computer.

Connecting a Digital Video Camcorder

To connect a digital video camcorder

Plug one end of an i.LINK cable (1) (not supplied) into the i.LINK port (2) on the computer and the other end into the DV In/Out port (3) on the digital video camcorder.



The connection procedure varies depending on your compatible i.LINK device. See the manual that came with the device for more information.

You cannot access the contents of "Memory Stick" in the digital video camcorder via an i.LINK connection.

Customizing Your VAIO Computer

This section briefly describes how to change the main settings of your VAIO computer. Among other things, you will learn how to use and customize the look of your Sony software and utilities.

❑ **Setting the Password** (page 62)

❑ **Using the VAIO Control Center** (page 67)

Setting the Password

Use one of the BIOS functions to set the password.

Once you have set the password, you will be prompted to enter the password after the VAIO logo appears to start your computer. The power-on password allows you to protect your computer from unauthorized access.

Adding the Power-on Password

The power-on password is provided to protect your computer from unauthorized access.

There are two types of the power-on passwords: the machine password and the user password. The machine password is provided for users with administrative rights on the computer to change all the setup options in the BIOS setup screen, as well as to start the computer. The user password is provided for the standard users to allow for changing some of the BIOS setup options, as well as starting the computer. To set the user password, you must first set the machine password.

!
Once you have set the power-on password, you cannot start your computer without entering the password. Be sure not to forget the password. Write down your password and keep it safe and private from other people.

If you forget the power-on password and need assistance to reset it, a password reset fee will be charged, and your computer may need to be sent in for service to reset the password.

To add the power-on password (machine password)

1. Turn on the computer.
2. Press the **F2** key when the VAIO logo appears.
   The BIOS setup screen appears. If not, restart the computer and press the **F2** key several times when the VAIO logo appears.
3. Press the ← or → key to select **Security** to display the **Security** tab, select **Set Machine Password**, and then press the **Enter** key.
4. On the password entry screen, enter the password twice and press the **Enter** key.
   The password can be up to 32 alphanumeric characters (including spaces) long.
5. Select **Password when Power On** under **Security** and press the **Enter** key.
6. Change the setting from **Disabled** to **Enabled**.
7. Press the ← or → key to select **Exit**, select **Exit Setup**, and then press the **Enter** key.
   At the confirmation prompt, press the **Enter** key.

To add the power-on password (user password)

! Make sure you set the machine password before setting the user password.

1. Turn on the computer.
2. Press the **F2** key when the VAIO logo appears.
   The BIOS setup screen appears. If not, restart the computer and press the **F2** key several times when the VAIO logo appears.
3. Enter the machine password and press the **Enter** key.
4. Press the ← or → key to select **Security** to display the **Security** tab, select **Set User Password**, and then press the **Enter** key.
5. On the password entry screen, enter the password twice and press the **Enter** key.
   The password can be up to 32 alphanumeric characters (including spaces) long.
6. Press the ← or → key to select **Exit**, select **Exit Setup**, and then press the **Enter** key.
   At the confirmation prompt, press the **Enter** key.

Changing/Removing the Power-on Password

To change or remove the power-on password (machine password)

1. Turn on the computer.
2. Press the **F2** key when the VAIO logo appears.
   The BIOS setup screen appears. If not, restart the computer and press the **F2** key several times when the VAIO logo appears.
3. Enter the machine password and press the **Enter** key.
4. Press the ← or → key to select **Security** to display the **Security** tab, select **Set Machine Password**, and then press the **Enter** key.
5. On the password entry screen, enter the current password once and a new password twice, and then press the **Enter** key.
   To remove the password, leave the **Enter New Password** and **Confirm New Password** fields blank and press the **Enter** key.
6. Press the ← or → key to select **Exit**, select **Exit Setup**, and then press the **Enter** key.
   At the confirmation prompt, press the **Enter** key.

To change or remove the power-on password (user password)

1. Turn on the computer.
2. Press the **F2** key when the VAIO logo appears.
   The BIOS setup screen appears. If not, restart the computer and press the **F2** key several times when the VAIO logo appears.
3. Enter the user password and press the **Enter** key.
4. Press the ← or → key to select **Security** to display the **Security** tab, select **Set User Password**, and then press the **Enter** key.
5. On the password entry screen, enter the current password once and a new password twice, and then press the **Enter** key.
   To remove the password, leave the **Enter New Password** and **Confirm New Password** fields blank and press the **Enter** key.
6. Press the ← or → key to select **Exit**, select **Exit Setup**, and then press the **Enter** key.
   At the confirmation prompt, press the **Enter** key.

Using the VAIO Control Center

The **VAIO Control Center** utility allows you to access system information and to specify preferences for system behavior.

To use the VAIO Control Center

1 Click **Start**, **All Programs**, and **VAIO Control Center**.

2 Select your desired control item and change the settings.

3 Once finished, click **OK**.
The setting of the desired item has been changed.

✍
For more information about each option, see the help file included with the **VAIO Control Center**.

Some of the control items will not be visible if you open the **VAIO Control Center** as a standard user.

Upgrading Your VAIO Computer

Your VAIO computer and memory modules use high precision components and electronic connectors technology. To avoid invalidation of the warranty during your product warranty period, we recommend that:

- You should contact your dealer to install a new memory module.
- You should not install it yourself, if you are not familiar with upgrading memory on a computer.
- You should not touch the connectors or open the memory module compartment cover.

For assistance, contact an authorized Sony Service Center. To find the nearest center or agent, see **Finding More about Your VAIO Computer** **(page 5)**.

The type of module and the amount of memory installed on your computer may differ depending on the model you purchased. See the specifications to find out about the configuration of your computer.

Adding and Removing Memory

If you want to expand the functionality of your computer, you can increase the amount of memory by installing optional memory modules. Before you upgrade your computer's memory, read the notes and procedures in the following pages.

Notes on adding/removing memory modules

- Be sure to place your computer on a flat surface before adding or removing memory modules.
- Be careful when changing memory. Improper installation of memory modules may cause damage to your system. This damage may void your manufacturer's warranty.
- Only use memory modules that are compatible with your computer. If a memory module is not detected by the computer or the Windows operating system becomes unstable, contact the sales dealer or the manufacturer of your memory module.
- Electrostatic discharge (ESD) can damage electronic components. Before touching a memory module, ensure the following:
  - The procedures described in this document assume user familiarity with the general terminology associated with personal computers and with the safety practice and regulatory compliance requirements for using and modifying electronic equipment.
  - Turn off your computer and disconnect it from the AC adapter and from any telecommunication links, networks, or modems before you remove any cover or panel from the computer. Failure to do so may result in personal injury or equipment damage.
  - ESD can damage memory modules and other components. Install the memory module only at an ESD workstation. If such a station is not available, do not work in a carpeted area, and do not handle materials that produce or hold static electricity (cellophane wrappers, for example). Ground yourself by maintaining contact with an unpainted metal portion of the chassis while performing the procedure.
  - Do not open the memory module package before you are ready to change the module. The package protects the module from ESD.

- Use the special bag supplied with the memory module or wrap the module in aluminum foil to protect it from ESD.
- Introducing any liquids, foreign substances, or objects into the memory module slots or other internal components of your computer will result in damage to the computer and any repair costs will not be covered by the warranty.
- Do not place the memory module in a location subject to:
  - Heat sources such as radiators or air ducts
  - Direct sunlight
  - Excessive dust
  - Mechanical vibration or shock
  - Strong magnets or speakers that are not magnetically shielded
  - Ambient temperature of more than 95°F (35°C) or less than 41°F (5°C)
  - High humidity
- Handle the memory module with care. To avoid injuries to your hands and fingers, do not touch the edges of the components and circuit boards inside your computer.

Removing and Installing a Memory Module

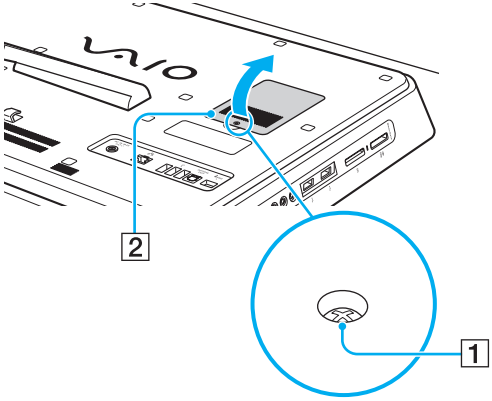
To change or add a memory module

1 Shut down the computer, turn off all peripheral devices, and disconnect the AC adapter and the peripheral devices from the power source.

2 Gently face down your computer on a flat surface and wait about an hour until the computer cools down.

! When facing down your computer, be sure to place it on a soft cloth to avoid damage to the LCD screen.

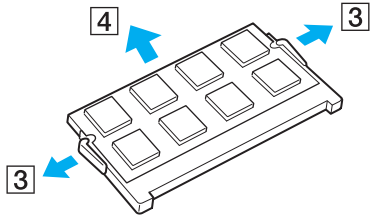
3 Unscrew the screw (1) and remove the memory module compartment cover (2).



4 Touch a metal object to discharge static electricity.

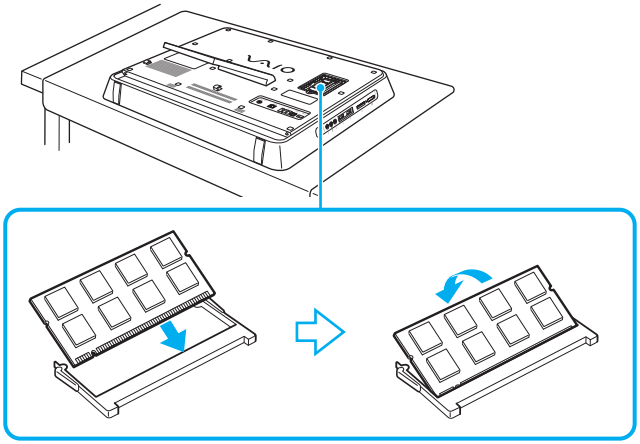
5 Remove the currently installed memory module as follows:

- ❑ Pull the latches in the direction of the arrows (3).
  The memory module is released.
- ❑ Make sure that the memory module tilts up and then pull it out in the direction of the arrow (4).



6 Remove the new memory module from its packaging.

7 Slide the memory module into the memory module slot and push it in until it clicks into place.



! Do not touch any other components on the motherboard.

If you want to install only one memory module, be sure to use the lower slot.

Be sure to insert the connector edge of the memory module into the slot while aligning the notch on the module with the small projection in the open slot. Do not force the memory module into the slot in a wrong orientation, as it may cause damage to the slot and the module.

8 Replace the memory module compartment cover and tighten the screw.

9 Connect the AC adapter and the peripheral devices to the computer, and then plug them to the power source.

10 Turn on all peripheral devices and then the computer.

Viewing the Amount of Memory

To view the amount of memory

1 Turn on the computer.

2 Click **Start**, **All Programs**, and **VAIO Control Center**.

3 Click **System Information** and **System Information**.
You can view the amount of system memory in the right pane. If the additional memory does not appear, repeat the installation procedure and restart the computer.

Precautions

This section describes safety guidelines and precautions to help you protect your VAIO computer from potential damage.

❑ **Safety Information (page 76)**
❑ **Care and Maintenance Information (page 77)**
❑ **Handling Your Computer (page 78)**
❑ **Handling the LCD Screen (page 80)**
❑ **Using the Power Source (page 81)**
❑ **Handling the Built-in Camera (page 82)**
❑ **Handling Discs (page 83)**
❑ **Handling "Memory Stick" (page 84)**
❑ **Handling the Built-in Storage Device (page 85)**

Safety Information

Computer

- ❑ Use your computer on a solid, stable surface.
- ❑ Do not place your computer near draperies that may block its air vents.
- ❑ Do not grasp the prop-up stand or the bottom chassis frame to lift your computer as the stand or the frame may break and cause the main unit to fall, resulting in damage to the computer or personal injuries.
- ❑ Use only specified peripheral equipment and interface cables. Otherwise, problems may occur.

Power Source

- ❑ Do not place heavy objects on the power cord. Doing so may cause fire.
- ❑ To disconnect the cord, pull it out by holding the plug. Never pull the cord itself.
- ❑ Unplug your computer from the AC outlet if you are not planning to use the computer for a long period of time.
- ❑ Make sure that the AC outlet is easily accessible.

Headphones

Preventing hearing damage – Avoid using headphones at high volume. Hearing experts advise against continuous, loud and extended play. If you experience a ringing in your ears, reduce the volume or discontinue use.

"Memory Stick"

Keep "Memory Stick" and "Memory Stick" adaptors out of reach of children. There is a risk of swallowing them.

Care and Maintenance Information

Computer

- Clean the cabinet with a soft cloth, which is dry or lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine, as these may damage the finish of your computer.
- Make sure you unplug the AC adapter before cleaning your computer.

LCD Screen

Use a soft, dry cloth to wipe the surface of the LCD screen. Rubbing the surface could damage the screen.

Built-in Camera

Clean the lens protection cover of the built-in camera with a blower brush or a soft brush. If the cover is extremely dirty, wipe it off with a soft dry cloth. Do not rub the cover, as it is sensitive to pressure.

Discs

- Proper care of the disc is essential to its continuous reliability. Do not use solvents (such as benzine, thinner, alcohol, commercially available cleaners, or anti-static spray) which may cause damage to the disc.
- For normal cleaning, hold the disc by its edges and use a soft cloth to wipe the surface from the center out.
- If the disc is badly soiled, moisten a soft cloth with water, wring it out well, and use it to wipe the surface of the disc from the center out. Wipe off any remaining moisture with a dry soft cloth.

Handling Your Computer

- If you drop a solid object or any liquid onto your computer, shut down the computer and then unplug it. You may want to have the computer checked by qualified personnel before operating it again.
- Do not drop your computer.
- Do not place your computer in a location subject to:
  - Heat sources, such as radiators or air ducts
  - Direct sunlight
  - Excessive dust
  - Moisture or rain
  - Mechanical vibration or shock
  - Strong magnets or speakers that are not magnetically shielded
  - Ambient temperature of more than 95°F (35°C) or less than 41°F (5°C)
  - High humidity
- Do not place electronic equipment near your computer. The electromagnetic field of the equipment may cause the computer to malfunction.
- Your computer uses high-frequency radio signals and may cause interference to radio or TV reception. If this occurs, relocate the computer a suitable distance away from the set.
- Do not use cut or damaged connection cables.
- If your computer is brought directly from a cold location to a warm one, moisture may condense inside the computer. In such a case, allow at least one hour before turning on the computer. If any problems occur, unplug the computer and contact an authorized Sony Service Center. To find the nearest center or agent, see **Finding More about Your VAIO Computer** **(page 5)**.

- To avoid losing data when your computer is damaged, back up your data regularly.
- To lift or move your computer, grasp the main unit on the sides with both hands from behind the computer to avoid any damage to the LCD screen. There is a risk of scratching the LCD screen, for example with your waist belt buckle, if you hold your computer from its front.

Handling the LCD Screen

- Do not leave the LCD screen facing the sun. This could damage the LCD screen. Be sure to block direct sunlight when using your computer near a window.
- Do not scratch the surface of the LCD screen or exert pressure on it. This could cause a damage.
- Using your computer in low temperature conditions may produce a residual image on the LCD screen. This is not a malfunction. When the computer returns to normal temperature, the screen returns to normal.
- A residual image may appear on the LCD screen if the same image is displayed for a long period of time. The residual image disappears after a while. You can use a screen saver to prevent residual images.
- The LCD screen becomes warm during operation. This is normal and does not indicate a malfunction.
- The LCD screen is manufactured using high-precision technology. You may, however, see tiny black points and/or bright points (red, blue, or green) that continuously appear on the LCD screen. This is a normal result of the manufacturing process and does not indicate a malfunction.
- Do not change the LCD screen orientation setting in the **Tablet PC Settings** window even when there are change options available for selection, as this may make your computer unstable. Sony assumes no liability for any malfunctions arising from changes to the settings.

Using the Power Source

See the specifications to find out about the configuration of your computer.

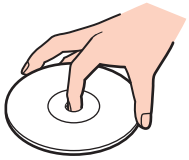
- Do not share the AC outlet with other power-consuming equipment, such as a photocopier or a shredder.
- You can purchase a power strip with a surge protector. This device helps prevent damage to your computer caused by sudden power surges, in an electrical storm, for example.
- Use the AC adapter supplied with your computer or genuine Sony products. Do not use any other AC adapter as it may cause a malfunction.

Handling the Built-in Camera

- Do not touch the lens protection cover of the built-in camera, as it may cause scratches on the cover and such scratches will appear on the captured images.
- Do not let the direct sunlight get into the lens of the built-in camera regardless of your computer's power state, as it may cause the camera to malfunction.
- The built-in camera is disabled while videos or still images are imported from an i.LINK-compatible device connected to the i.LINK port.

Handling Discs

- Fingerprints and dust on the surface of a disc may cause read errors. Be sure to hold the disc by its edges and central hole, as shown below:



- Never affix an adhesive label to a disc. This will affect the use of the disc and may result in irreparable damage.

Handling "Memory Stick"

- Do not touch the "Memory Stick" connector with your finger or metallic objects.
- Use only the adhesive label supplied with "Memory Stick" as a label.
- Do not bend, drop, or expose "Memory Stick".
- Do not disassemble or modify "Memory Stick".
- Do not let "Memory Stick" get wet.
- Do not use or store "Memory Stick" in a location subject to:
  - Static electricity
  - Electrical noise
  - Extremely high temperatures, such as in a car parked in the sun
  - Direct sunlight
  - High humidity
  - Corrosive substances
- Use the storage case supplied with "Memory Stick".
- Be sure to make a backup copy of your valuable data.
- When using "Memory Stick Duo", do not use a fine-tipped pen to write on the label adhered to "Memory Stick Duo". Exerting pressure on the media may damage internal components.

Handling the Built-in Storage Device

The built-in storage device (hard disk drive or solid state drive) has a high storage density and reads or writes data in a short time. However, it can be easily damaged if improperly used. If the built-in storage device is damaged, the data cannot be restored. To prevent losing data, you should be careful when handling your computer.

Features and options in this section may not be available on your computer.
See the specifications to find out about the configuration of your computer.

To avoid damaging your hard disk drive

- ❑ Do not subject your computer to sudden movements.
- ❑ Keep your computer away from magnets.
- ❑ Do not place your computer in a location subject to mechanical vibration or in an unstable position.
- ❑ Do not move your computer while the power is on.
- ❑ Do not turn off the power or restart your computer while reading or writing data to the hard disk drive.
- ❑ Do not use your computer in a place subject to extreme changes in temperature.
- ❑ Do not remove the hard disk drive from your computer.

To avoid damaging your solid state drive

- ❑ Do not turn off the power or restart your computer while reading or writing data to the solid state drive.
- ❑ Do not remove the solid state drive from your computer.

Troubleshooting

This section describes how to solve common problems you might encounter when using your VAIO computer. Many problems have simple solutions. Try these suggestions before visiting the Sony online support web site at the following URLs:

- For customers in USA
  http://esupport.sony.com/EN/VAIO/
- For customers in Canada
  http://sony.ca/support/
- For customers in Spanish-speaking Latin American countries or areas
  http://esupport.sony.com/ES/VAIO/LA
- For customers in Brazil
  http://esupport.sony.com/BR/

Features and options in this section may not be available on your computer.

- **Computer (page 88)**
- **System Security (page 93)**
- **Built-in Camera (page 94)**
- **Networking (page 96)**
- **Bluetooth Technology (page 99)**
- **Optical Discs (page 102)**
- **Display (page 106)**
- **Printing (page 108)**

❑ **Microphone** (page 109)
❑ **Mouse** (page 110)
❑ **Speakers** (page 111)
❑ **Keyboard** (page 112)
❑ **Floppy Disks** (page 113)
❑ **Audio/Video** (page 114)
❑ **"Memory Stick"** (page 117)
❑ **Peripherals** (page 118)

Computer

What should I do if my computer does not start?

- ❑ Make sure your computer is securely plugged into a power source and turned on and the power indicator light shows the power is on.
- ❑ Disconnect all connected USB devices (if any), and then restart your computer.
- ❑ Remove any extra memory modules you may have installed since purchase, and then restart your computer.
- ❑ If your computer is plugged into a power strip or an uninterruptible power supply (UPS), make sure the power strip or UPS is plugged into a power source and turned on.
- ❑ Make sure the brightness and contrast controls are adjusted correctly.
- ❑ Unplug the AC adapter. Wait three to five minutes. Plug the AC adapter again and press the power button to turn on your computer.
- ❑ Condensation may cause your computer to malfunction. If this occurs, do not use the computer for at least one hour.
- ❑ Check that you are using the supplied Sony AC adapter. For your safety, use only the genuine Sony AC adapter, which is supplied by Sony for your VAIO computer.
- ❑ Make sure your computer is not in Sleep mode by pressing the power button on the computer or the sleep button on the keyboard. If you press and hold the power button for more than four seconds, your computer will turn off automatically.

What should I do if the green power indicator light turns on but my screen remains blank?

- Press the **Alt**+**F4** keys several times to close the application window. An application error may have occurred.
- Press the **Ctrl**+**Alt**+**Delete** keys and click the arrow next to the **Shut down** button and **Restart**.
- Press and hold the power button for more than four seconds to shut down your computer. Unplug the AC adapter and leave the computer for about five minutes. Then, plug the AC adapter and turn on the computer again.

  !
  Turning off your computer with the **Ctrl**+**Alt**+**Delete** keys or the power button may cause loss of unsaved data.

What should I do if my computer or software stops responding?

- If your computer stops responding while a software application is running, press the **Alt**+**F4** keys to close the application window.
- If the **Alt**+**F4** keys do not work, click **Start** and the **Shut down** button to turn off your computer.
- If your computer does not turn off, press the **Ctrl**+**Alt**+**Delete** keys and click the **Shut down** button.
  If the **Windows Security** window appears, click **Shut Down**.
- If this procedure does not work, press and hold the power button until the computer turns off.

  !
  Turning off your computer with the **Ctrl**+**Alt**+**Delete** keys or the power button may cause loss of unsaved data.
- Unplug the AC adapter. Wait three to five minutes. Plug the AC adapter again and press the power button to turn on your computer.
- Try reinstalling the software.
- Contact the software publisher or designated provider for technical support.

Why doesn't my computer enter Sleep mode?

Your computer may become unstable if the operating mode is changed before the computer completely enters Sleep mode.

To restore your computer to normal mode

1 Close all open programs.

2 Click **Start**, the arrow next to the **Shut down** button, and **Restart**.

3 If your computer does not restart, press the **Ctrl**+**Alt**+**Delete** keys and click the arrow next to the **Shut down** button and **Restart**.

4 If this procedure does not work, press and hold the power button until the computer turns off.

! Turning off your computer with the **Ctrl**+**Alt**+**Delete** keys or the power button may cause loss of unsaved data.

What should I do if my computer does not accept my password and returns a message, Enter Onetime Password?

If you enter a wrong power-on password three times consecutively, the **Enter Onetime Password** message appears and Windows will not start. Press and hold the power button for more than four seconds to check that the power indicator light turns off. Wait for 10 or 15 seconds, then restart your computer and enter the correct password. When entering the password, check that the Num lock indicator light is lit and the Caps lock indicator light is unlit. If not, press the **Num Lk** (or **Num Lock**) key or the **Caps Lock** key to turn on/off the indicator light before entering the password.

What should I do if my game software does not work or it keeps crashing?

- ❑ Check the web site of the game if there are any patches or updates to download.
- ❑ Make sure you have installed the latest video driver software.
- ❑ On some VAIO models, the graphics memory is shared with the system. The optimal graphic performance in such a case is not guaranteed.

What should I do if I cannot remember the power-on password?

If you have forgotten the power-on password, contact an authorized Sony Service Center to reset it. A reset fee will be charged. To find the nearest center or agent, see **Finding More about Your VAIO Computer** **(page 5)**.

How can I change the boot device order?

You can use one of the BIOS functions to change the boot device order. Follow these steps:

1. Turn on your computer.
2. Press the **F2** key when the VAIO logo appears.
   The BIOS setup screen appears. If not, restart the computer and press the **F2** key several times when the VAIO logo appears.
3. Press the ← or → key to select **Boot**.
4. Press the ↑ or ↓ key to select your desired priority under **Boot Priority** and press the **Enter** key.
5. Press the ↑ or ↓ key to select the device to which you want to assign the priority and press the **Enter** key.
6. Press the ← or → key to select **Exit**, select **Exit Setup**, and then press the **Enter** key.
   At the confirmation prompt, press the **Enter** key.

Why doesn't my screen turn off after the automatic turn-off time has passed?

Some software applications or screen savers are designed to temporarily disable the feature of your operating system that turns off the computer screen or places the computer into Sleep mode after a certain period of inactivity. To solve this problem, exit the running software application(s) or change the current screen saver.

What should I do if I cannot boot my computer from the USB floppy disk drive connected to the computer?

To boot your computer from the USB floppy disk drive, you need to change the boot device.

Turn on your computer and press the **F11** key when the VAIO logo appears.

How do I check the volume of the recovery partition?

Your built-in storage device contains the recovery partition where the data for the system recovery is stored. To check the volume of the recovery partition, follow these steps:

1. Click **Start**, right-click **Computer**, and select **Manage**.
2. Click **Disk Management** under **Storage** in the left pane.
   The volume of the recovery partition and the total volume of the C drive are displayed in the **Disk 0** row in the center pane.

System Security

How can I protect my computer against security threats, such as viruses?

The Microsoft Windows operating system is preinstalled on your computer. The best way to protect your computer against security threats, such as viruses, is to download and install the latest Windows updates regularly.

You can get important Windows updates by doing the following:

! Your computer must be connected to the Internet to download the updates.

1 Click **Start** and **Control Panel**.

2 Click **System and Security**.

3 Click **Action Center**.

4 Follow the on-screen instructions to set up automatic or scheduled updates.

How do I keep my antivirus software updated?

You can keep the **Norton Internet Security** software program current with the latest updates from Symantec Corporation.

To download and install the latest security updates, follow these steps:

! Your computer must be connected to the Internet to download the updates.

1 Click **Start**, **All Programs**, **Norton Internet Security**, and **LiveUpdate**.

2 Follow the on-screen instructions to complete the updates.

Built-in Camera

Why does the viewfinder show no images or poor-quality images?

- The built-in camera cannot be shared by more than one software application. Exit the current application before launching another.
- The viewfinder may show some noise, for example horizontal streaks, when you are viewing a rapid-moving object. This is normal and does not indicate a malfunction.
- If the problem persists, restart your computer.

Why are captured images poor in quality?

- The images captured under the fluorescent light may show reflections of light.
- A dark portion in captured images may appear as a noise.
- If the lens protection cover is dirty, you cannot take a clear shot. Clean the cover. See **Built-in Camera** **(page 77)**.

What should I do if captured images contain dropped frames and audio interruptions?

- The effect settings on your software application may cause dropped frames. See the help file included with your software application for more information.
- There may be more software applications running than your computer can handle. Exit the applications that you are not currently using.
- The power management function of your computer may be active. Check the CPU performance.

What should I do if captured images flicker?

This problem occurs when you use the camera under fluorescent lights due to a mismatch between the lighting output frequency and the shutter speed.

To reduce flicker noise, change the direction of the camera or the brightness of camera images. In some software applications, you can set an appropriate value to one of the camera properties (e.g. light source, flicker, etc.) to eliminate flicker noise.

Why is the video input from the built-in camera suspended for a few seconds?

The video input may be suspended for a few seconds if:

- a shortcut key with the **Fn** key is used.
- the CPU load increases.

This is normal and does not indicate a malfunction.

What should I do if my computer becomes unstable when it enters a power saving mode while the built-in camera is in use?

If your computer automatically enters Sleep mode, change the corresponding power saving mode setting. To change the setting, see **Using the Power Saving Mode** **(page 21)**.

Networking

What should I do if my computer cannot connect to a wireless LAN access point?

- Connection capability is affected by distance and obstructions. You need to place your computer away from obstructions or move any access point you may be using closer to the computer.
- Make sure the **WIRELESS** switch is on and the **WIRELESS** indicator light is lit on your computer.
- Make sure power to the access point is on.
- Follow these steps to check the settings:
  1. Click **Start** and **Control Panel**.
  2. Click **View network status and tasks** under **Network and Internet**.
  3. Click **Connect to a network** to confirm that your access point is selected.
- Make sure the encryption key is correct.
- Make sure **Maximum Performance** is selected for **Wireless Adapter Settings** in the **Power Options** window. Selecting any other option may result in a communication failure. To change the settings, follow these steps:
  1. Right-click the power status icon on the taskbar and select **Power Options**.
  2. Click **Change plan settings**.
  3. Click **Change advanced power settings**.
  4. Select the **Advanced settings** tab.
  5. Double-click **Wireless Adapter Settings** and **Power Saving Mode**.
  6. Select **Maximum Performance** from the drop-down list for **Plugged in**.

What should I do if I cannot access the Internet?

- Check the access point settings. See the manual that came with your access point for more information.
- Make sure your computer and the access point are connected to one another.
- Place your computer away from obstacles or move any access point you may be using closer to the computer.
- Make sure your computer is properly configured for Internet access.
- Make sure **Maximum Performance** is selected for **Wireless Adapter Settings** in the **Power Options** window. Selecting any other option may result in a communication failure. Follow the steps in **What should I do if my computer cannot connect to a wireless LAN access point?** **(page 96)** to change the settings.

Why is the data transfer speed slow?

- The wireless LAN data transfer speed is affected by distance and obstructions between devices and access points. Other factors include device configurations, radio conditions, and software compatibility. To maximize the data transfer speed, place your computer away from obstacles or move any access point you may be using closer to the computer.
- If you are using a wireless LAN access point, the device may be temporarily overloaded depending on how many other devices are communicating via the access point.
- If your access point interferes with other access points, change the access point channel. See the manual that came with your access point for more information.
- Make sure **Maximum Performance** is selected for **Wireless Adapter Settings** in the **Power Options** window. Selecting any other option may result in a communication failure. Follow the steps in **What should I do if my computer cannot connect to a wireless LAN access point?** **(page 96)** to change the settings.

How do I avoid data transfer interruptions?

- While your computer is connected to an access point, data transfer interruptions may occur if a large file is exchanged or the computer is placed in close proximity to microwaves and cordless telephones.
- Move your computer closer to the access point.
- Make sure the access point connection is intact.
- Change the access point channel. See the manual that came with your access point for more information.
- Make sure **Maximum Performance** is selected for **Wireless Adapter Settings** in the **Power Options** window. Selecting any other option may result in a communication failure. Follow the steps in **What should I do if my computer cannot connect to a wireless LAN access point?** **(page 96)** to change the settings.

What are channels?

- Wireless LAN communication uses divided frequency bands known as channels. Third-party wireless LAN access point channels may be preset to different channels from Sony devices.
- If you are using a wireless LAN access point, see connectivity information contained in the manual that came with your access point.

Why does the network connection stop when I change the encryption key?

Two computers with the wireless LAN function may lose a peer-to-peer network connection if the encryption key is changed. You can either change the encryption key back to the original profile or re-enter the key on both computers so the key matches.

Bluetooth Technology

What should I do if other Bluetooth devices cannot find my computer?

- Make sure both devices have the Bluetooth function enabled.
- Make sure the **WIRELESS** switch is on and the **WIRELESS** indicator light is lit on your computer.
- Your computer and the device may be too far apart. Wireless Bluetooth technology works best when the devices are within 33 feet (10 meters) of each other.

What should I do if I cannot find the Bluetooth device I want to communicate with?

- Check that the Bluetooth function of the device you want to communicate with is on. See the other device's manual for more information.
- If the device you want to communicate with is already communicating with another Bluetooth device, it may not be found or it may not be able to communicate with your computer.
- To allow other Bluetooth devices to communicate with your computer, follow these steps:
  1. Click **Start** and **Devices and Printers**.
  2. Right-click the Bluetooth device icon and click **Bluetooth settings**.
  3. Click the **Options** tab and select the **Allow Bluetooth devices to find this computer** check box.

What should I do if other Bluetooth devices cannot connect to my computer?

- Check the suggestions in **What should I do if I cannot find the Bluetooth device I want to communicate with? (page 99)**.
- Make sure the other devices are authenticated.
- The data transfer distance can be shorter than 33 feet (10 meters) depending on existing obstacles between the two devices, on radio wave quality, and on the operating system or the software in use. Move your computer and Bluetooth devices closer to each other.

Why is my Bluetooth connection slow?

- The data transfer speed depends on the obstructions and/or the distance between the two devices, on the radio wave quality, and on the operating system or the software in use. Move Bluetooth devices closer to your computer.
- The 2.4 GHz radio frequency used by Bluetooth and wireless LAN devices is also used by other devices. Bluetooth devices incorporate technology that minimizes interference from other devices using the same wavelength, however, communication speed and connection range may be reduced. Interference from other devices may also stop communications altogether.
- Connection capability is affected by distance and obstructions. You need to place your computer away from obstacles or move the device to which it is connected closer to the computer.
- Identify and remove obstacles between your computer and the device to which it is connected.

Why can't I use the services supported by the connected Bluetooth device?

Connection is only possible for services also supported by the computer with the Bluetooth function. For more details, search **Windows Help and Support** for Bluetooth information.

Why can't I use the Bluetooth function when I log onto my computer as a user with a standard user account?

The Bluetooth function may not be available to a user with a standard user account on your computer. Log onto the computer as a user with administrative rights.

Why can't I use the Bluetooth devices when I switch users?

If you switch users without logging off your system, the Bluetooth devices will not work. Be sure to log off before switching users. To log off your system, click **Start**, the arrow next to the **Shut down** button, and **Log off**.

Why can't I exchange business card data with a mobile phone?

The business card exchange function is not supported.

What should I do if I do not hear sound from my headphones or audio/video controller?

Check the SCMS-T settings. If your headphones or audio/video controller does not support SCMS-T content protection, you need to connect the device using the Advanced Audio Distribution Profile (A2DP). Follow these steps:

1 Click **Start** and **Devices and Printers**.

2 Right-click the icon for the device that you want to connect using the A2DP and select **Control**.

3 Click **SCMS-T Settings**.

4 Click to cancel the **Connect to a device only if it supports SCMS-T content protection** check box.

Optical Discs

Why does my computer freeze when I try to read a disc?

The disc that your computer is trying to read may be dirty or damaged. Follow these steps:

1 Press the **Ctrl**+**Alt**+**Delete** keys and click the arrow next to the **Shut down** button and **Restart** to restart the computer.

! Turning off your computer with the **Ctrl**+**Alt**+**Delete** keys may cause loss of unsaved data.

2 Remove the disc from the optical disc drive.

3 Check the disc for dirt or damage. If you need to clean the disc, see **Discs** **(page 77)** for instructions.

What should I do if the drive tray does not open?

- ❑ Make sure your computer is on.
- ❑ Press the drive eject button or the **Fn+E** keys.
- ❑ If the drive eject button or the **Fn+E** keys do not work, click **Start** and **Computer**, right-click the optical disc drive icon, and select **Eject**.
- ❑ If none of the above options work, insert a thin, straight object (such as a paper clip) into the manual eject hole on the optical disc drive.
- ❑ Try restarting your computer.

What should I do if I cannot play a disc properly on my computer?

- Make sure the disc is inserted into the optical disc drive with the label side facing toward you.
- Make sure the necessary program(s) is installed according to the manufacturer's instructions.
- If a disc is dirty or damaged, your computer will stop responding. Follow these steps:

  1 Press the **Ctrl**+**Alt**+**Delete** keys and click the arrow next to the **Shut down** button and **Restart** to restart the computer.

  !
  Turning off your computer with the **Ctrl**+**Alt**+**Delete** keys may cause loss of unsaved data.

  2 Remove the disc from the optical disc drive.

  3 Check the disc for dirt or damage. If you need to clean the disc, see **Discs** **(page 77)** for instructions.
- If you are playing a disc and cannot hear sound, do any of the following:
  - The volume may have been turned off by the muting button on the keyboard. Press the button once again.
  - The volume may have been minimized by the volume down button on the keyboard. Press the volume up button several times or keep pressing the button to turn up the volume loud enough.
  - Right-click the volume icon on the taskbar and click **Open Volume Mixer** to check the settings.
  - Check the volume setting in the audio mixer.
  - If you are using external speakers, check the volume settings on the speakers and the connections between the speakers and your computer.

- ❑ Make sure the correct driver software is installed. Follow these steps:

1. Click **Start** and **Control Panel**.
2. Click **System and Security**.
3. Click **System**.
4. Click **Device Manager** in the left pane.
   The **Device Manager** window appears with a listing of your computer's hardware devices.
   If an "X" or an exclamation point appears on the listed device, you may need to enable the device or reinstall the driver software.
5. Double-click the optical disc drive device to open a list of the optical disc drives of your computer.
6. Double-click your desired drive.
   You can confirm the driver software by selecting the **Driver** tab, and clicking **Driver Details**.
7. Click **OK** to close the window.

- ❑ Make sure an adhesive label is not affixed to a disc. Adhesive labels can come off while the disc is in the optical disc drive and damage the drive or cause it to malfunction.
- ❑ If a region code warning appears, the disc may be incompatible with the optical disc drive. Check the package to make sure the region code is compatible with the optical disc drive.
- ❑ If you notice condensation on your computer, do not use the computer for at least one hour. Condensation can cause the computer to malfunction.

What should I do if I cannot play Blu-ray Disc media or my computer becomes unstable during Blu-ray Disc playback?

- Check if your optical disc drive supports the Blu-ray Disc media.
- You may not be able to play some Blu-ray Disc contents on your computer, or the computer may become unstable during Blu-ray Disc playback. To play such contents normally, download and install the latest updates for the **WinDVD BD** using the **VAIO Update**.
  For information on how to use the **VAIO Update**, see **Updating Your Computer** **(page 23)**.

What should I do if I cannot write data to CD media?

- Make sure you neither launch any software application nor allow any to launch automatically, not even a screen saver.
- If you are using a CD-R/RW disc with an adhesive label affixed, replace it with one with no affixed adhesive label. Using a disc with an affixed adhesive label could cause a write error or other damage.

What should I do if I cannot write data to DVD media?

- Make sure you are using the correct DVD recordable media.
- Check which DVD recordable format is compatible with your optical disc drive. Some brands of DVD recordable media do not work.

Display

Why did my screen go blank?

- Your computer screen may go blank if the computer enters Sleep mode. If the computer is in Sleep mode, press any key to bring the computer back into Normal mode. See **Using the Power Saving Mode** **(page 21)** for more information.
- Make sure your computer is securely plugged into a power source and turned on and the power indicator light is lit.

What should I do if I do not see proper images or videos?

- Be sure to select **True Color (32 bit)** for the display colors before using video/image software or starting DVD playback. Selecting any other option may prevent such software from displaying images successfully. To change the display colors, follow these steps:

  1. Right-click on the desktop and select **Screen resolution**.
  2. Click **Advanced settings**.
  3. Click the **Monitor** tab.
  4. Select **True Color (32 bit)** under **Colors**.

- Do not change the display resolution or colors while using video/image software or playing DVDs, as it may cause unsuccessful playback/display or unstable system operations.
  Additionally, it is recommended you disable your screen saver before starting DVD playback. If the screen saver is enabled, it may be activated during DVD playback and prevent the playback from running successfully. Some screen savers have been found to even change the display resolution and colors.

Why doesn't my screen display a video?

The video memory of your computer may be insufficient for displaying high resolution videos. In such a case, lower the resolution of the LCD screen.

To change the screen resolution, follow these steps:

1 Right-click on the desktop and select **Screen resolution**.

2 Click the drop-down list next to **Resolution**.

3 Move the slider up to increase or down to decrease the screen resolution.

✍
You can check the total amount of the graphics and video memory available. Right-click on the desktop, select **Screen resolution**, and click **Advanced Settings** and the **Adapter** tab. The displayed value may be different from the actual amount of memory on your computer.

What should I do if my screen is dark?

Press the **Fn**+**F6** keys on the keyboard to brighten your computer screen.

How do I run Windows Aero?

To run Windows Aero, follow these steps:

1 Right-click on the desktop and select **Personalize**.

2 Select your desired theme from **Aero Themes**.

For information about the Windows Aero features, such as Windows Flip 3D, see **Windows Help and Support**.

Printing

What should I do if I cannot print a document?

- Make sure your printer is on, and the printer cable is securely connected to the ports on the printer and your computer.
- Make sure your printer is compatible with the Windows operating system installed on your computer.
- You may need to install the printer driver software before you use your printer. See the manual that came with your printer for more information.
- If your printer is not functioning after your computer resumes from Sleep mode, then restart the computer.
- If the bidirectional communication functions are provided with your printer, disabling the functions on your computer may enable printing. Follow these steps:

  1 Click **Start** and **Devices and Printers**.

  2 Right-click the printer icon and select **Properties**.

  3 Click the **Ports** tab.

  4 Click to cancel the **Enable bidirectional support** check box.

  5 Click **OK**.

  This disables the bidirectional communication functions of the printer, such as data transfer, status monitoring, and remote panel.

Microphone

What should I do if my microphone does not work?

- If you are using an external microphone, make sure the microphone is turned on and is properly plugged into the microphone jack on your computer.
- Your sound input device may have been incorrectly configured. To configure the sound input device, follow these steps:
  1. Close all open programs.
  2. Click **Start** and **Control Panel**.
  3. Click **Hardware and Sound**.
  4. Click **Manage audio devices** under **Sound**.
  5. On the **Recording** tab, select your desired device for sound input and click **Set Default**.

How can I prevent microphone feedback?

Microphone feedback occurs when the microphone receives the sound from a sound output device, such as a speaker.

To prevent this problem:

- Keep the microphone away from a sound output device.
- Turn down the volume of the speakers and the microphone.

Mouse

What should I do if my computer does not recognize my mouse?

Make sure your mouse is securely plugged into the port.

What should I do if the pointer does not move when I use my mouse?

- ❑ Make sure another mouse is not connected.
- ❑ If the pointer does not move while a software application is running, press the **Alt**+**F4** keys to close the application window.
- ❑ If the **Alt**+**F4** keys do not work, press the Windows key once and then the ➡ key several times, select **Restart** with the ⬆ or ⬇ key, and press the **Enter** key to restart your computer.
- ❑ If your computer does not restart, press the **Ctrl**+**Alt**+**Delete** keys, select the arrow next to the **Shut down** button with the ⬇ and ➡ keys and then **Restart** with the ⬆ or ⬇ key, and press the **Enter** key to restart your computer.
- ❑ If this procedure does not work, press and hold the power button until the computer turns off.

  !
  Turning off your computer with the power button may cause loss of unsaved data.

Speakers

What should I do if I do not hear sound from the built-in speakers?

- If you are using a program that has its own volume control, make sure the volume control is properly set. See the program's help file for more information.
- The volume may have been turned off by the muting button on the keyboard. Press the button once again.
- The volume may have been minimized by the volume down button on the keyboard. Press the volume up button several times or keep pressing the button to turn up the volume loud enough to hear sound.
- Check the Windows volume controls by clicking the volume icon on the taskbar.
- Your sound output device may have been incorrectly configured. To change the sound output device, see **How do I change the sound output device?** **(page 114)**.

What should I do if my external speakers do not work?

- Check the suggestions in **What should I do if I do not hear sound from the built-in speakers?** **(page 111)**.
- Make sure your speakers are properly connected and the volume is turned up loud enough to hear sound.
- Make sure your speakers are designed for computer use.
- If your speakers have a muting button, set the button to off.
- If your speakers require external power, make sure the speakers are connected to a power source. See the manual that came with your speakers for more information.

Keyboard

What should I do if the keyboard configuration is wrong?

The language layout of the keyboard is labeled on the packaging box. If you choose a different regional keyboard when you complete the Windows setup, the key configuration will be mismatched.

To change the keyboard configuration, follow these steps:

1. Click **Start** and **Control Panel**.
2. Click **Clock, Language, and Region**, and then **Change keyboards or other input methods** under **Region and Language**.
3. Click **Change keyboards** on the **Keyboards and Languages** tab.
4. Change the settings as desired.

What should I do if I cannot use the numeric keypad to enter numbers?

If you cannot use the numeric keypad, Num Lk mode may not be activated. Check if the Num lock indicator light is unlit. If the indicator light is unlit, press the **Num Lk** key to turn it on before entering numerals.

What should I do if my computer does not recognize my keyboard?

Make sure your keyboard is securely plugged into the port.

Floppy Disks

Why doesn't the Safely Remove Hardware icon appear on the taskbar when the drive is connected?

Your computer does not recognize the floppy disk drive. First, make sure the USB cable is properly connected to the USB port. If you need to secure the connection, wait a few moments for the computer to recognize the drive. If the icon still does not appear, follow these steps:

1. Close all programs that are accessing the floppy disk drive.
2. Wait until the indicator light on the floppy disk drive turns off.
3. Push the eject button to remove the disk, and unplug the USB floppy disk drive from your computer.
4. Reconnect the floppy disk drive by plugging the USB cable into the USB port.
5. Restart the computer by clicking **Start**, the arrow next to the **Shut down** button, and **Restart**.

What should I do if I cannot write data to a floppy disk?

- Make sure the floppy disk is properly inserted in the drive.
- If the disk is inserted properly and you are still unable to write data to it, the disk may be full or write-protected. You can either use a floppy disk that is not write-protected or disable the write-protect feature.

Audio/Video

What should I do if I cannot use my digital video camcorder?

If a message appears stating that the i.LINK device is disconnected or turned off, the i.LINK cable may not be securely plugged into the port on your computer or camcorder. Unplug the cable, and plug it in once again. See **Connecting an i.LINK Device** **(page 59)** for more information.

How do I turn off the Windows startup sound?

To turn off the Windows startup sound, follow these steps:

1. Click **Start** and **Control Panel**.
2. Click **Hardware and Sound**.
3. Click **Manage audio devices** under **Sound**.
4. On the **Sounds** tab, click to cancel the **Play Windows Startup sound** check box.
5. Click **OK**.

How do I change the sound output device?

If you do not hear sound from the device connected to a port, such as the USB port, HDMI output port, optical output port, or headphones jack, you need to change the device for sound output.

1. Close all open programs.
2. Click **Start** and **Control Panel**.
3. Click **Hardware and Sound**.
4. Click **Manage audio devices** under **Sound**.
5. On the **Playback** tab, select your desired device for sound output and click **Set Default**.

What should I do if I do not hear the sound from the sound output device connected to the HDMI output port, optical output port, or headphones jack?

- You need to change the sound output device if you want to hear sound from the device connected to a port, such as the HDMI output port, optical output port, or headphones jack. For the detailed procedure, see **How do I change the sound output device? (page 114)**.
- If you still hear no sound from the sound output device, follow these steps:
  1. Follow steps 1 to 4 in **How do I change the sound output device? (page 114)**.
  2. On the **Playback** tab, select the HDMI or S/PDIF icon and click **Properties**.
  3. Click the **Advanced** tab.
  4. Select the sample rate and bit depth (for example, 48000 Hz, 16 bit) which the device supports.
  5. Click **OK**.

How do I output the Dolby Digital or DTS sound through an S/PDIF-compatible device?

To output the Dolby Digital or DTS sound from a disc through an S/PDIF-compatible device connected to your computer, follow these steps:

1 Click **Start** and **Control Panel**.

2 Click **Hardware and Sound**.

3 Click **Manage audio devices** under **Sound**.

4 On the **Playback** tab, select the optical out icon and click **Properties**.

5 Click the **Supported Formats** tab.

6 Click to select the **DTS Audio** and **Dolby Digital** check boxes.

7 Click **OK**.

! If the Dolby Digital or DTS output is connected to a device that does not support it, the device will not play any sound. In such a case, cancel the **DTS Audio** and **Dolby Digital** check boxes.

Why do sound interruptions and/or dropped frames occur when I play high-definition videos, such as those recorded with the AVCHD digital video camcorder?

Playing high-definition videos requires substantial hardware resources, such as CPU, GPU, or system memory performance on your computer. During the video playback, some operations and/or functions may become unavailable, and sound interruptions, dropped frames, and playback failure may occur depending on the configuration of your computer.

"Memory Stick"

What should I do if I cannot use "Memory Stick" that was formatted on a VAIO computer on other devices?

You may need to reformat your "Memory Stick".

Formatting "Memory Stick" erases all data, including music data previously saved on it. Before you reformat "Memory Stick", back up important data and confirm that "Memory Stick" does not contain files you want to keep.

1 Copy the data from "Memory Stick" onto your built-in storage device to save data or images.

2 Format "Memory Stick" by following the steps in **Formatting "Memory Stick"** **(page 38)**.

Can I copy images from a digital camera using "Memory Stick"?

Yes, and you can view video clips that you have recorded with digital cameras that are compatible with "Memory Stick".

Why can't I write data to "Memory Stick"?

Some versions of "Memory Stick" are equipped with an erasure prevention switch to protect data from unintentional erasure or overwriting. Make sure the erasure prevention switch is off.

Peripherals

What should I do if I cannot connect a USB device?

- If applicable, check the USB device is turned on and using its own power supply. For example, if you are using a digital camera, check if the battery is charged. If you are using a printer, check if the power cable is connected properly to the AC outlet.
- Try using another USB port on your computer. The driver software could be installed to the specific port you used the first time you connected the device.
- See the manual that came with your USB device for more information. You may need to install software before you connect the device.
- Try connecting a simple, low-powered device such as a mouse to test if the port is working at all.
- USB hubs may prevent a device from working because of a power distribution failure. We recommend you connect the device directly to your computer without a hub.

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